

| Project Risk | | | | | | | | | | |
|--------------|--|---|---|--|---|---|---|---|--|---|
| Level 1 | | | | | | | | | | |
| Level 2 | Environmental & Hydraulics ENV | Structures & Geotech STG | Design / PS&E DES | Right-of-Way (including Access and Acquisition) ROW | Utilities UTL | Railroad RR | Partnerships and Stakeholders PSP | Management / Funding MGT | Contracting and Procurement CTR | Construction CNS |
| Level 3 | ENV 10 NEPA/SEPA Documentation Completion (incl. Section 4f, etc.) ----- NEPA/SEPA Challenges | STG 10 Potential Changes to Structures Design (Bridge Superstructure, Retaining Walls) | DES 10 Potential Changes to roadway design (including vertical and/or horizontal alignment, earthwork, pavement, etc.) | ROW 10 Issues Associated with Development of ROW Plan | UTL 10 Utility Design Coordination and Agreements | RR 10 Railroad Design Coordination and Agreements | PSP 10 Tribal Issues | MGT 10 Change in Project Managers and/or other key Leadership | CTR 10 Change in Project Delivery Method | CNS 10 Traffic Control and Staging Issues (MOT/WZTC) |
| | ENV 20 ESA Issues (incl. consultation, Biologic Assessments/Biological Opinions, Fish Passage) | STG 20 Potential Changes to Geotechnical Design Foundations, Liquefaction, Mitigation, etc. ----- Challenging Geotech Conditions | DES 20 Approval of Design Deviations ----- Changes to roadway design criteria (i.e. shoulder width, sight distance, etc.) | ROW 20 Uncertainty in Future ROW Escalation Rate (Project- Specific, including change in land use, urbanization, etc.) | UTL 20 Utility relocations and conflicts | RR 20 Railroad Coordination during construction (flagging, work restrictions, work windows, etc.) | PSP 20 Public Involvement Issues ----- Other Interagency Agreements (i.e. Sound Transit, USFS, cities, counties, etc.) | MGT 20 Delayed Decision Making | CTR 20 Issues Related to Contract Language (Contract Packaging, Warranties, Liquidated Damages, DBE, Insurance/Bonding, etc.) | CNS 20 Construction Permitting Issues (incl. work restrictions) |
| | ENV 30 Environmental Permitting (incl. Appeals) | STG 30 Changes to Structural Design Criteria (e.g., seismic) | DES 30 Changes to Architectural, CSS, Landscape Design | ROW 30 Limited Access (Interchange Justification Report - IJR, Access Hearing, etc.) | | RR 30 Contractor Right of Entry Requirements | PSP 30 Additional Scope in Response to Third Party Concerns (e.g., artwork, shared-use pathways, intersection improvements, etc.) | MGT 30 Availability of Funding / Cash Flow Restrictions | CTR 30 Delays in Ad/Bid/Award Process (Addenda, Protests, etc.) | CNS 30 Work Windows (Weather, Fish, etc.) |
| | ENV 40 Archaeological/Cultural Discoveries, historic property impacts & mitigation (Section 106) | | DES 40 Projects by other agencies affected by or affecting this project (design coordination) | ROW 40 Managed Access (Appeal Hearing, etc.) | | | | MGT 40 Political/Policy Changes | CTR 40 Market Conditions (non- competitive bidding environment) Lack of Qualified Bidders | CNS 40 Construction Schedule Uncertainty (general, including timing of award) |
| | ENV 50 Hazardous Materials Groundwater and Soil Contamination (PE, RW, CN) | | DES 50 Potential Changes to Design of Permanent Traffic Items (ITS, Illumination, Intersection, etc.) | ROW 50 ROW Acquisition Issues (condemnation, relocations, demolitions, etc.) | | | | MGT 50 State Workforce Limitations | CTR 50 Delays in Procurement of Specialty Materials or Equipment and associated cost premiums | CNS 50 Marine/ Over Water Construction Issues |
| | ENV 60 Wetlands / Stream / Habitat Mitigation | | DES 60 Design / PS&E Reviews ----- Additional Scope Driven by Internal Considerations (e.g., Maintenance, Traffic Projections, Tolling, extend project terminii, change to purpose and need, etc.) | ROW 60 Additional ROW is required (including full vs partial takes): Temporary and Permanent Access Breaks - FHWA approval ----- Construction / Subterranean Easements | | | | | CTR 60 Contractor Non-Performance | CNS 70 Earthwork Issues (re-use, haul, disposal, etc.) |
| | ENV 70 Stormwater, Potential Changes to Flow Control or Runoff Treatment/Hydraulic Requirements | | | | | | | | CTR 70 Availability of Specialty Labor/Labor and/or Productivity Disruptions | CNS 80 Coordination with Adjacent Projects During Construction |
| | ENV 80 Environmental Impacts during Construction (including water quality, TESC etc.) | | | | | | | | | CNS 90 Contractor Access / Staging Coordination and Constructability Issues |
| | ENV 90 Permanent Noise Mitigation | | | | | | | | | CNS 100 Construction Accidents |
| | ENV 900 Other Environmental Issues | STR 900 Other STR Issues | DES 900 Design Issues Other | ROW 900 Other ROW Issues | UTL 900 Other UTL Issues | RR 900 Other RR Issues | PSP 900 Other PSP Issues | MGT 900 Other MGT Issues | CTR 900 Other CTR Issues | CNS 900 Other Construction Issues (including unanticipated change orders/claims) |

The RBS provides several functions and benefits to the project team and to management, including:

- 1) Consistency with taxonomy (wording);
- 2) Organizes risk events into common categories;
- 3) Helps to identify trends with respect to common usage of risk event categories & event types along with their probability and impact values;
- 4) Helps to identify common risk events among projects that the Region and HQ offices should be aware of due to their potential cumulative effects; e.g. negotiating agreements with agencies or other municipalities;
- 5) Provides a basis to work from for risk elicitors during CEVP workshops;
- 6) Provides a basis for development of independent risk surveys for those that are unable to attend a CEVP workshop.

This RBS serves as a starting point in assessing project risks in CEVP and CRA workshops; and also for smaller projects that may not conduct a formal workshop.

| RBS CODE | RISK TRIGGER (CAUSE or PRECIPITATING EVENT) | RISK EVENT | CONSEQUENCE (effect on project objectives) | PROBABILITY | IMPACT (\$ (TIME) | |
|-----------|---|--|--|-------------|----------------------|----------|
| ENV 10.01 | As a result of... the public involvement process | a challenge to the NEPA/SEPA document may occur | which would delay delivery of the EA document. | 70% | ↑\$5M | 8 weeks |
| ENV 10.02 | Because of... public pressure and internal reviews | a challenge to the level of environmental documentation may occur, | resulting in the need to prepare an EIS, adding scope and cost and lengthening the schedule. | 10% | ↑\$0.1M | 6 months |
| ENV 10.03 | Due to... reviews by WSDOT Environmental | the design information may be deemed inadequate for NEPA/SEPA approval | leading to additional design work, added cost, and schedule delays. | 10% | ↑\$0.1M | 4 months |